



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/269,972	04/08/1999	YUKIO NAKAJIMA	Q53854	1844

7590

05/14/2003

SUGHRUE MION ZINN MACPEAK & SEAS
2100 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 200373202

EXAMINER

GARCIA OTERO, EDUARDO

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 05/14/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/269,972

Applicant(s)

NAKAJIMA, YUKIO

Examiner

Eduardo Garcia-Otero

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 14.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____.

DETAILED ACTION: Final Action (finality of prior action is withdrawn)

Introduction

1. Title is: TIRE DESIGN METHOD, OPIMIZATION ANALYZING APPARATUS, AND STORAGE MEDIUM...
2. First named inventor is: NAKAJIMA
3. Claims 1-19 have been submitted, examined, and rejected.
4. Priority is claimed to PCT/JP97/02783 filed on 08 August 1997.
5. The finality of the prior office action (mailed 12/18/02) is withdrawn because new rejections were introduced.
6. This is the third action on the merits, and is final.

Telephone Interview

7. An interview summary for January 24, 2003 is attached. To summarize, there are four procedural problems with the prior office action:
8. First, the prior action paragraphs 13-16 serve as a new 35 USC 112 first paragraph "lack of enablement" rejection regarding "neural network".
9. Second, the prior action paragraphs 17-21 serve as a new 35 USC 112 fourth paragraph "not further limiting" rejection for claim 2.
10. Third, Tang US patent 6,061,673 is now listed on the attached PTO form 892.
11. Fourth, prior action paragraph 32 lists Tucker as a background reference, and not as new ground of rejection. Tucker clarified terms of art.
12. The Examiner regrets the inconvenience caused to the Applicant by these four procedural problems. The Examiner further regrets the inconvenience caused to the Applicant by the unavoidable delay in providing a written interview summary.
13. Applicant's summary of the telephone interview at Remarks page 1-2 is substantially accurate.
14. All pending rejections will be repeated below, with reference to Applicant's remarks.

35 USC § 112- fourth paragraph-not further limiting-WITHDRAWN

15. Remarks, page 2. Applicant persuasively defines "parameter" in claim 1 as "could be static (i.e., a constant numerical value) or dynamic (i.e., a varying numerical value)", and that in

Art Unit: 2123

claim 2 “parameter” is further limited to only “design variable”. Thus, the pending rejection for “not further limiting” is withdrawn.

35 USC § 112- first paragraph- enablement-WITHDRAWN

16. Remarks, page 3-4. The Applicant persuasively asserts that independent claims 1, 10, and 15 do not claim “neural networks”. Thus, the enablement rejections are withdrawn.

35 USC 102(e) and 103-MAINTAINED

17. LINEAR SYSTEMS. Remarks, page 4-5, independent claims 1, 10, 15. Applicant unpersuasively asserts that Kamegawa is limited to **linear systems**. There is no objective indication that Kamegawa is limited to linear systems. Kamegawa simply and broadly states “objective function” at FIG 2. The Examiner interprets Kamegawa’s “objective function” as including both linear and non-linear.

18. Applicant requests clarification of the Examiner’s discussion of “sensitivity” and “local derivative” at paragraph 23 of the prior office action. The Examiner notes that Kamegawa is using a technique for maximizing (or minimizing) the objective function which is useful when the objective function is non-linear. Using “sensitivities” (in place of the constant derivative of a linear function) to predict the maximum of the objective function implies (though does not require) that the objective function is non-linear. Similarly, repeating these predictions until the objective function converges implies (though does not require) that the objective function is non-linear. Note that if the objective function was linear, then the “sensitivity” for each design variable would not have to be repeatedly calculated. Thus, Kamegawa’s procedure is explicitly designed to handle non-linear objective functions, though Kamegawa does not explicitly state the term “non-linear”.

19. If Kamegawa’s objective functions were limited to linear functions, then simpler predictive algorithms could be used. Thus, Kamegawa implicitly discloses non-linear functions.

20. The term “local derivative” was introduced by the Examiner, and not by Kamegawa. If the system was linear, then the derivative (or “sensitivity”) would be constant, and the derivative could be calculated once (locally, similar to Kamegawa’s sensitivity), and the derivative would remain constant (globally).

21. In summary, the whole point of Kamegawa’s objective optimization search algorithm is to allow for non-linearity.

Art Unit: 2123

22. PREDICTED. Remarks, page 6, dependent claims 3, 6, 18. Applicant unpersuasively attempts to categorize Kamegawa as “constitutes a deterministic model”, and distinguish it from claims 3, 6, and 18 which use the term “**predicted**”. Note that Kamegawa uses “sensitivities” to predict what variable values will yield a maximum objective function, then repeats until convergence. Thus, Kamegawa does disclose prediction.

23. MOTIVATION. Remarks, page 6-7, dependent claims 8 and 14. Applicant unpersuasively asserts that Kamegawa “discloses a determinative system that does not apply predictive capabilities and cannot handle non-linear situations... Thus there is no motivation to combine...”. As discussed above, Kamegawa does predict, and Kamegawa can handle non-linear.

24. Thus, all prior art rejections are maintained, as stated in the prior office action, and are hereby incorporated by reference.

FINAL OFFICE ACTION

25. THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

26. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Garcia-Otero whose telephone number is 703-305-0857. The examiner can normally be reached on Monday through Thursday from 9:00 AM to 7:00 PM.

Art Unit: 2123

28. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (703) 305-9704. The fax phone numbers for this group are:

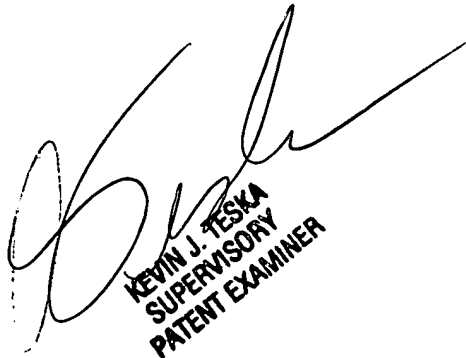
29. (703) 746-7238 --- for communications after a Final Rejection has been made;

30. (703) 746-7239 --- for other official communications; and

31. (703) 746-7240 --- for non-official or draft communications.

32. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.

* * *



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER